Remarks

The above Amendments and these Remarks are in reply to the outstanding Office Action. Claims 1-13, 15-45 and 47 are presented herewith for consideration. Claims 1-13 and 31-44 are allowed. Claims 24-26, 32, 34, 39 and 42 have been amended to correct typographical errors.

Claim 24 has been objected to because of informalities. As suggested by the Office Action, claim 24 has been amended to correct the informalities.

Claims 15, 21-25, 27-30, 45 and 47 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030227926 (*Ramamurthy, et al.*) in view of U.S. Publication No. 20030227932 (*Meempat, et al.*).

Claims 16-20 and 26 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Ramamurty, et al.* in view of U.S. Patent No. 7,324,452 (*Xu, et al.*).

I.   Rejection of Claims 15, 21-25, 27-30, 45 and 47 under 35 U.S.C. §103(a)

Claims 15, 21-25, 27-30, 45 and 47 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Ramamurthy, et al.* in view of *Meempat, et al.*

Claim 15 calls for:
A method for scheduling data through a component in a network, the method comprising:
      allocating egress port bandwidth for each of a plurality of egress ports to various inputs;
      assigning credits to each of the various inputs in proportion to a predetermined bandwidth allocation for an egress port;
      when an input requests access to an egress port and the input has at least one credit for the requested egress port, allowing the request to proceed to an arbiter;
      when an input receives a grant of access to a requested egress port from the arbiter, decrementing the credits of the input for the egress port by one;
      when an input has zero credits for an egress port, disallowing any requests from the input for the egress port from proceeding to the arbiter; and
      when all of the inputs have zero credits for the egress port, resetting the credits, comprising reassigning credits to each of the various inputs in proportion to the predetermined bandwidth allocation for the egress port.

In rejecting claim 15, the Office Action states at pages 3 and 4:
      Ramamurthy, et al. … may not expressly disclose when an input has zero credits for an egress port, disallowing any requests from the input for the egress port from proceeding to the arbiter and when all of the inputs have zero credits for the egress port

resetting the credits, comprising reassigning credits to each of the various inputs in proportion to the predetermined bandwidth allocation of each port.

However…Meempat et al. discloses when an input has zero credits for an egress port , disallowing any requests from the input for the egress port from the proceeding to the arbiter ([0020], [0021]); and when all of the inputs have zero credits for the egress port, resetting the credits, comprising reassigning credits to each of the various inputs in proportion to the predetermined bandwidth allocation for the egress port ([0053],[0054]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate disallowing requests and resetting inputs with zero credits as taught by Meempat et al. with the method as disclosed by Ramamurthy, et al.

The Applicant's attorney respectfully disagrees that *Meempat et al.* discloses "when all of the inputs have zero credits for the egress port, resetting the credits…" at paragraphs [0053] and [0054]. *Meempat et al.* discloses that a single "credit counter [from "a set of credit counters"]" "is reloaded" "when the credit counter decrements to zero" and not "when all of the inputs have zero credits" as called for in claim 15.

Claims 21-23 depend from claim 15 and therefore are patentable for at least the reasons stated above in regard to claim 15.

Claim 24 calls for, among other elements, "the credit update circuitry reassigns the queue's number of credits to the initial number of credits responsive to the each queue's number of credits being zero" and therefore is patentable for similar reasons stated above in regard to claim 15.

Claims 27-30 depend from claim 24 and therefore are patentable for at least the reasons stated above in regard to claim 24.

Claim 45 calls for, among other elements, "reassigning the plurality of credit values to each of the respective plurality of inputs in proportion to the predetermined bandwidth allocation for the egress port responsive to the plurality of credit values being zero" and therefore is patentable for similar reasons stated above in regard to claim 15.

Claim 47 depends from claim 45 and therefore is patentable for at least the reasons stated above in regard to claim 15.

Claim 25 calls for, among other elements:

An apparatus for scheduling data through a network component, the apparatus comprising:

a plurality of component ingress ports, each comprising a plurality of ingress port queues;

a plurality of ingress port processors, each receiving requests for access to multiple component egress ports from the plurality of ingress port queues, wherein an ingress port processor in the plurality of ingress port processors includes,

credit update circuitry to receive an initial number of credits for each queue, wherein the initial number of credits for a queue corresponds to an allocation of bandwidth by one egress port to one queue; and

request processing circuitry coupled to the credit update circuitry and coupled to receive a request from a queue for access to an egress port, wherein the request processing circuitry determines whether to allow the request to proceed to an arbiter based on criteria including whether a requesting queue's number of credits is greater than a predetermined saturation value,

wherein the apparatus is cooperative with a strict priority scheme that assigns data one of a plurality of priorities, and wherein all data on the ingress ports is assigned a same priority for purposes of determining whether to allow a request to proceed to the arbiter.

In rejecting claim 25, the Office Action states at pages 6 and 7:

Ramamurthy, et al. … may not expressly disclose wherein the apparatus is cooperative with a strict priority scheme that assigns data one of a plurality of priorities, and wherein all data on the ingress ports is assigned a same priority for purpose of determining whether to allow a request to proceed to arbiter.

However…Meempat et al. discloses wherein the apparatus is cooperative with a strict priority scheme that assigns data one of a plurality of priorities, and wherein all data on the ingress ports is assigned a same priority for purpose of determining whether to allow a request to proceed to arbiter.
([0088], [0093]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate a strict priority scheme assigning a same priority as taught by Meempat et al. with the method as disclosed by Ramamurthy, et al.

The Applicant's attorney respectfully disagrees that *Meempat et al.* discloses "wherein all data on the ingress ports is assigned a same priority for purposes of determining whether to allow a request to proceed to the arbiter …" at paragraphs [0088] and [0093]. *Meempat et al.* discloses assigning priority "first to inputs with credits…" (Paragraph [0088], line 3) and "first to those outputs that pre-selected input j and that have credits…" (Paragraph [0093], lines 2). Thus, *Meempat et al.* does not disclose "assign[ing]""all data on the ingress ports…a same priority…" as called for in claim 25.

It is therefore respectfully requested that for at least the reasons stated above the rejection of claims 15, 21-25, 27-30, 45 and 47 under 35 U.S.C. §103(a) be withdrawn.

II.   Rejection of Claims 16-20 and 26 under 35 U.S.C. §103(a)

Claims 16-20 and 26 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Ramamurthy, et al.* in view of *Xu, et al.*

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Claim 16 calls for, among other elements:

A method for scheduling data through a component in a network, the method comprising:

allocating egress port bandwidth for each of a plurality of egress ports to various inputs;

assigning credits to each of the various inputs in proportion to a predetermined bandwidth allocation for an egress port;

when an input requests access to an egress port and the input has at least one credit for the requested egress port, allowing the request to proceed to an arbiter;

when an input receives a grant of access to a requested egress port from the arbiter, decrementing the credits of the input for the egress port; and

when an input has a request for an egress port, the input has credits $\leq$ zero for the requested egress port, and no other inputs have pending requests for the egress port, allowing the request to proceed to the arbiter and decrementing the credits of the input for the egress port by one.

In rejecting claim 16, the Office Action states at pages 10 and 11:

Ramamurthy, et al. … may not expressly disclose an input has a request for an egress port, the input has credits <= zero for the requested port.

However…Xu et al. discloses an input has a request for an egress port, the input has credits <= zero for the requested port (50, figure 40, column 5 lines 58-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate input credits that are less than zero as taught by Xu et al. with the apparatus as disclosed by Ramamurthy, et al.

The Applicant's attorney respectfully disagrees as the Office Action has not met its burden of proving obviousness. In particular, the Office Action has not identified where the prior art discloses not only "when an input has a request for an egress port, the input has credits $\leq$ zero for the requested egress port" but also the additionally claimed "and no other inputs have pending requests for the egress port, allowing the request to proceed to the arbiter and decrementing the credits of the input for the egress port by one." The Office Action has not cited where "no other inputs have pending requests…" is disclosed in the cited art.

Claims 17-20 depend from claim 16 and therefore are patentable for at least the reasons stated above in regard to claim 16.

Claim 26 includes a similar limitation and therefore is patentable for similar reasons stated above in regard to claim 16.

It is therefore respectfully requested that the rejection of claims 16-20 and 26 under 35 U.S.C. § 103(a) be withdrawn.

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III.   Conclusion

Based on the above amendments and these remarks, reconsideration of claims 1-13, 15-45 and 47 is respectfully requested.

Should the Examiner have any questions with regard to the instant response, the Examiner is respectfully requested to contact the undersigned attorney.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501826 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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